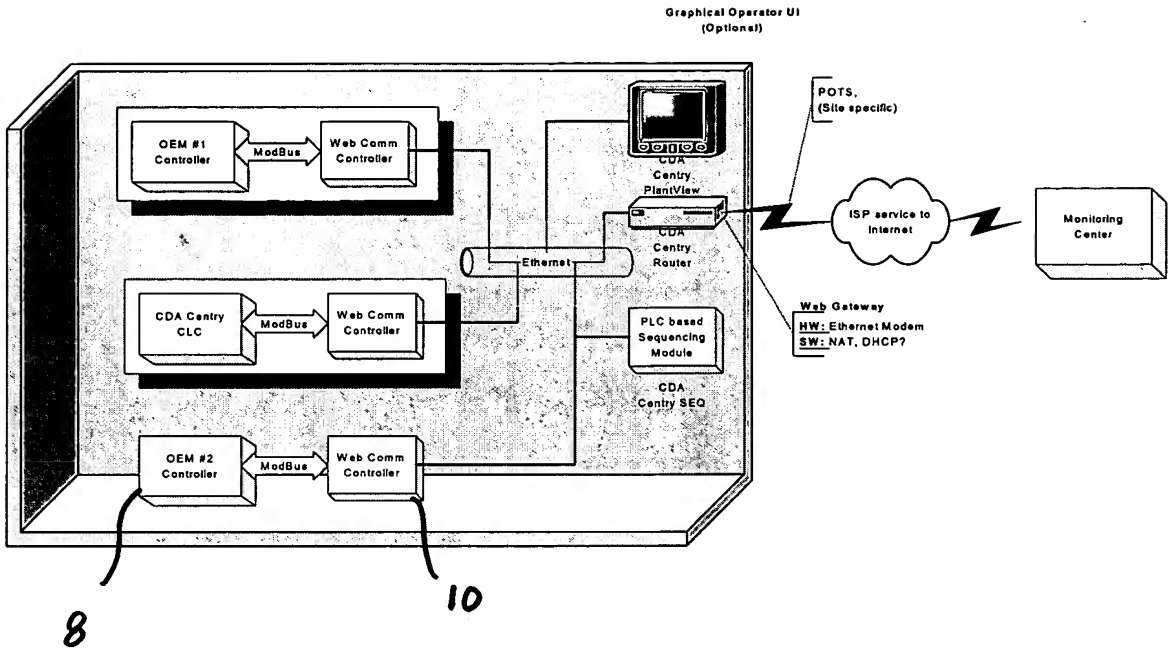


Fig. 1

EP 0 945 784 A2

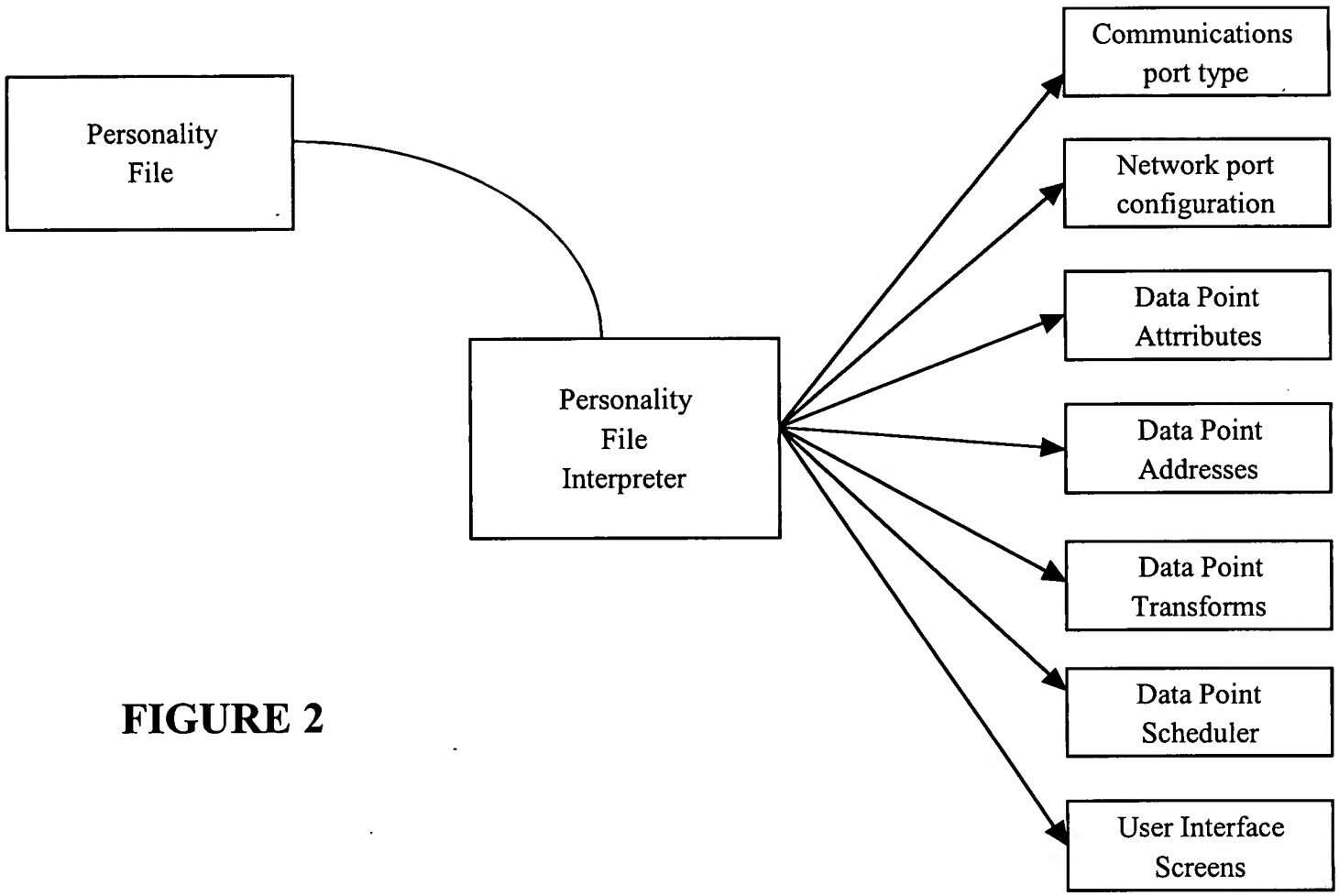
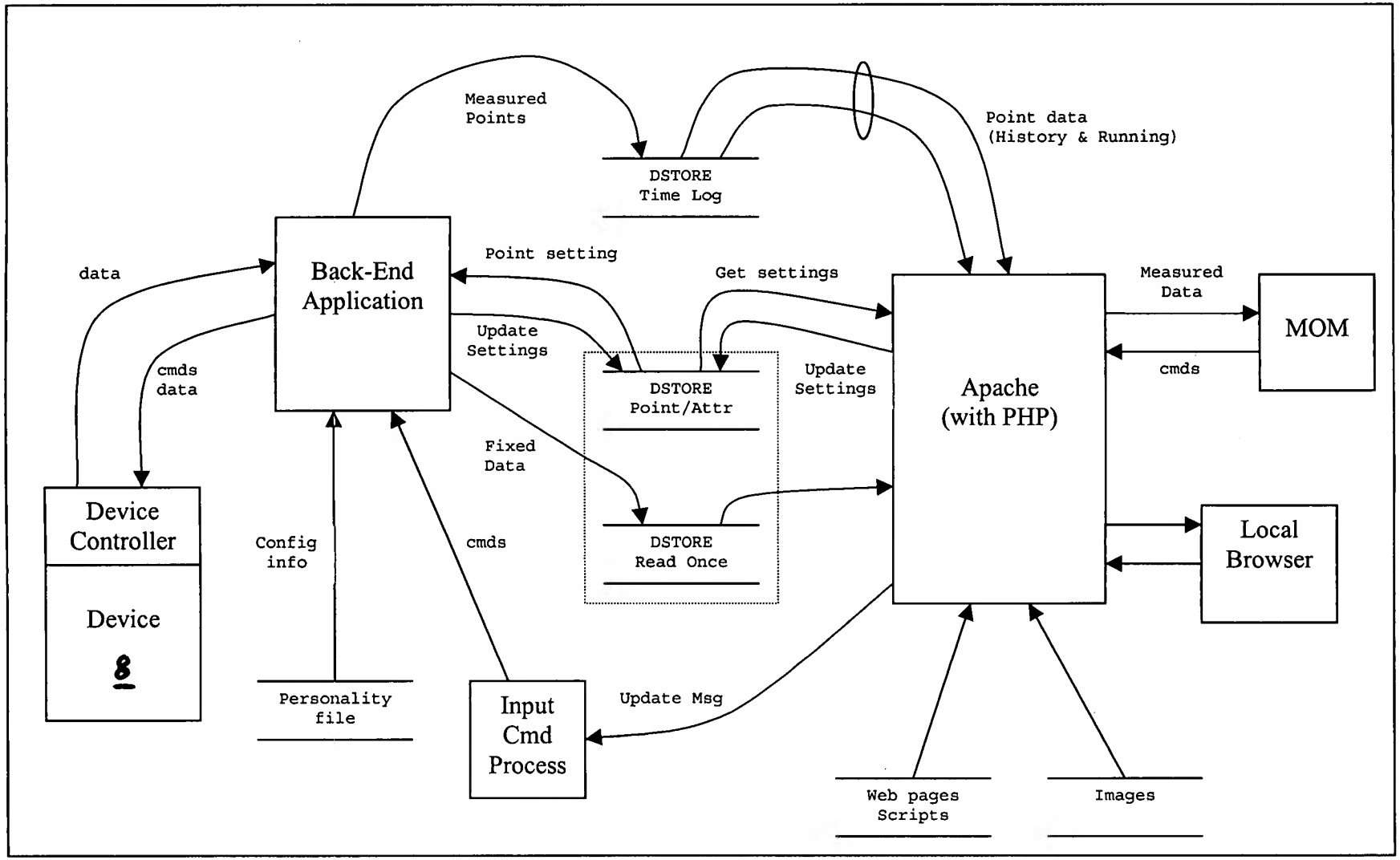

Personality File
Personality File Interpreter
Communications port type
Network port configuration
Data Point Attrributes
Data Point Addresses
Data Point Transforms
Data Point Scheduler
User Interface Screens

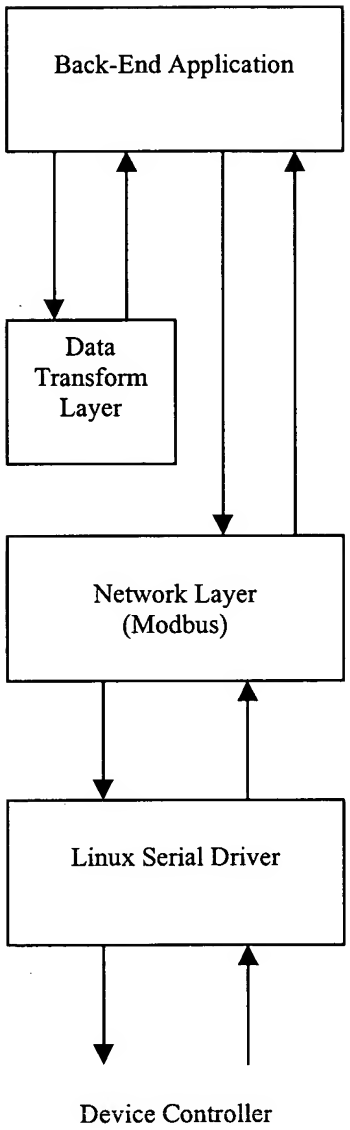
FIGURE 2

Fig. 3

High-Level WCC System Block Diagram



Back-End Modbus Interface



- Makes calls to the Transform Layer to condition data values.
- Makes read and write calls for data values to and from the Network Layer.
- Ensures all data is in final, storable format.
- Handles scheduling of commands and requests to the device controller.

- Searches for the Remote Address in the transform table (read or write table).
- Applies the transform to the data.

- Determines the Modbus function type from the Remote Address and the direction (read/write).
- Searches function table of supported functions.
- Makes calls to the Linux Serial driver.

- Handles reads/writes of data over serial bus.

Fig. 4

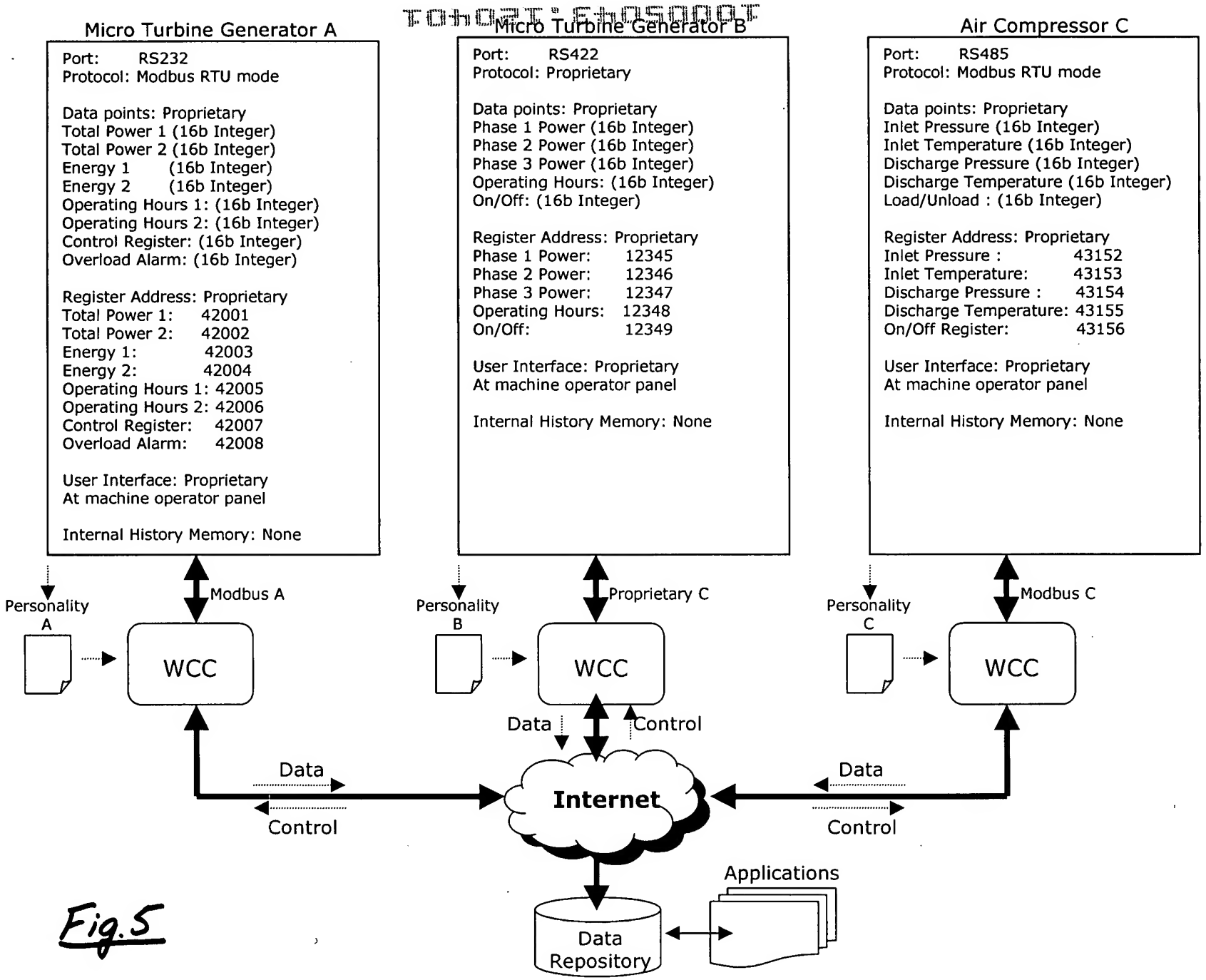
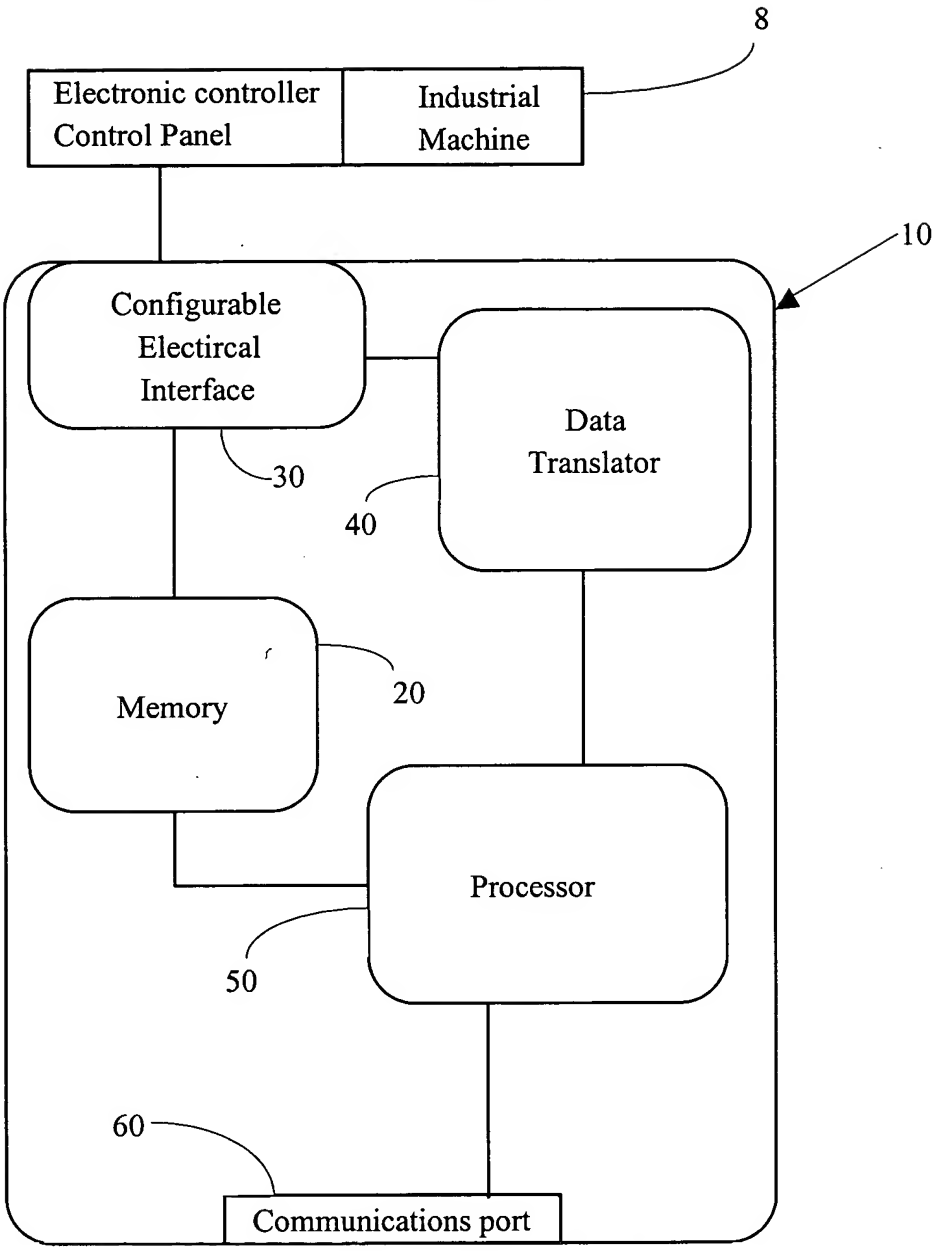

Micro Turbine Generator A
Port: RS232
Protocol: Modbus RTU mode
Data points: Proprietary
Total Power 1 (16b Integer)
Total Power 2 (16b Integer)
Energy 1 (16b Integer)
Energy 2 (16b Integer)
Operating Hours 1: (16b Integer)
Operating Hours 2: (16b Integer)
Control Register: (16b Integer)
Overload Alarm: (16b Integer)
Register Address: Proprietary
Total Power 1: 42001
Total Power 2: 42002
Energy 1: 42003
Energy 2: 42004
Operating Hours 1: 42005
Operating Hours 2: 42006
Control Register: 42007
Overload Alarm: 42008
User Interface: Proprietary
At machine operator panel
Internal History Memory: None
Micro Turbine Generator B
Port: RS422
Protocol: Proprietary
Data points: Proprietary
Phase 1 Power (16b Integer)
Phase 2 Power (16b Integer)
Phase 3 Power (16b Integer)
Operating Hours: (16b Integer)
On/Off: (16b Integer)
Register Address: Proprietary
Phase 1 Power: 12345
Phase 2 Power: 12346
Phase 3 Power: 12347
Operating Hours: 12348
On/Off: 12349
User Interface: Proprietary
At machine operator panel
Internal History Memory: None
Air Compressor C
Port: RS485
Protocol: Modbus RTU mode
Data points: Proprietary
Inlet Pressure (16b Integer)
Inlet Temperature (16b Integer)
Discharge Pressure (16b Integer)
Discharge Temperature (16b Integer)
Load/Unload : (16b Integer)
Register Address: Proprietary
Inlet Pressure : 43152
Inlet Temperature: 43153
Discharge Pressure : 43154
Discharge Temperature: 43155
On/Off Register: 43156
User Interface: Proprietary
At machine operator panel
Internal History Memory: None
Personality A
Modbus A
WCC
Personality B
Proprietary C
WCC
Personality C
Modbus C
WCC
Data
Control
Data
Control
Internet
Data
Control
Applications
Data Repository

Fig.5

FIGURE 6


8
Electronic controller Control Panel
Industrial Machine
10
Configurable Electircal Interface
30
Data Translator
40
Memory
20
Processor
50
60
Communications port